

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

OYSTER OPTICS, LLC,

*Plaintiff,*

v.

INFINERA CORPORATION, CORIANT  
(USA) INC., et al.,

*Defendants.*

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Case No. 2:19-CV-00257-JRG

**PLAINTIFF OYSTER OPTICS, LLC'S  
OPENING CLAIM CONSTRUCTION BRIEF**

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## I. INTRODUCTION

The parties in this case present only a single term for the Court’s construction. This term “phase modulate” was previously construed by this Court, in a *Markman* proceeding that included each of the parties in this case. There, this Court found that the Defendants had failed to establish that the plain meaning of the term “phase modulation” precluded using amplitude modulation as well. But the Court found that the specifications of the patents at issue in *that case* disparaged the use of amplitude modulation and taught the advantages of using phase modulation instead. On that basis, the Court construed the term “phase modulation” to exclude the use of amplitude modulation.

The term should be construed in accord with how it is used in *this* patent, not in *other patents* claiming *different* inventions. Here, the specification of the asserted patent is different than the specifications in the prior case. Far from disparaging the use of amplitude modulation, it teaches the benefits of a system that utilizes both amplitude modulation and phase modulation. It even claims the use of a mode where light “is *both* amplitude-modulated *and* phase-modulated.” (emphasis added). Accordingly, the rationale for the Court limiting the term “phase modulate” to something less than its plain meaning does not apply in this case. The term should be given its full, plain and ordinary meaning, as in Oyster’s proposed construction.

## II. BACKGROUND OF THE PATENT-IN-SUIT AND RELATED LITIGATION

The patent asserted in this case is U.S. Patent No. 6,665,500, filed on January 29, 2001, by inventor Peter “Rocky” Snawerdt, founder and CEO of Oyster Optics, Inc. Mirzaie Decl., Ex. A, ’500 patent. The ’500 patent is not related by continuation or division to any other U.S. patent. However, it does cite and incorporate by reference U.S. patent application serial no. 09/765,153, another patent application of Mr. Snawerdt’s which issued as U.S. Patent No. 6,594,055. ’500 patent at 2:51–56, 3:6–11.

**A. The Prior Construction of “Phase Modulate” by This Court**

The ’055 patent cited in the ’500 patent specification was one of eight patents that Oyster previously asserted in a set of cases before this Court that were consolidated for pre-trial purposes as *Oyster Optics, LLC v. Coriant America Inc., et al.*, Case No. 2:16-cv-01302-JRG (the “Prior Litigation”). Each of the defendants in the present case was a defendant in one of those consolidated cases and participated in the consolidated *Markman* briefing and arguments. See Case No. 2:16-cv-01302-JRG, Dkts. 23, 27.

The parties in the Prior Litigation presented competing constructions for the term “phase modulate” and related terms. In its December 5, 2017 claim construction memorandum and order, the Court adopted the construction advanced by the defendants: “alter the phase of light while keeping the amplitude of the light constant to create an optical signal having a phase that is representative of data.” Case No. 2:16-cv-01302-JRG, Dkt. 190 at 18.

The defendants in the Prior Litigation, including the Coriant and Infinera parties, then moved for partial summary judgment of non-infringement based on the absence of “phase modulation” under the Court’s construction. Oyster opposed this motion, arguing that it presented an issue that was not addressed by the parties during the *Markman* proceedings, namely whether the term “phase modulation” precluded any alteration of amplitude at any time, and asking the Court to clarify its construction to resolve this question. Case No. 2:16-cv-01302-JRG, Dkt. 615 at 4. The Court granted Oyster’s request and clarified the construction to be: “alter the phase of light to create an optical signal having a phase that is representative of data. Use of phase modulation excludes use of amplitude modulation.” *Id.* at 9. In other words, the Court removed the requirement that amplitude be “constant,” but instead excluded explicit “amplitude modulation.”

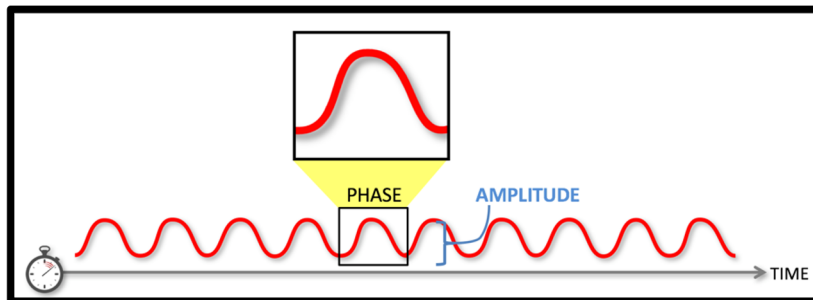
Defendants ask the Court to adopt this clarified construction for “phase modulate” as the construction for that term in the ’500 patent as well. For the reasons set forth below, “phase modulate” in this patent should be given its plain and ordinary meaning, and not be limited by disparaging statements in other patents, describing and claiming different inventions.

## B. Transmitting Digital Data on Light Waves Using Modulation

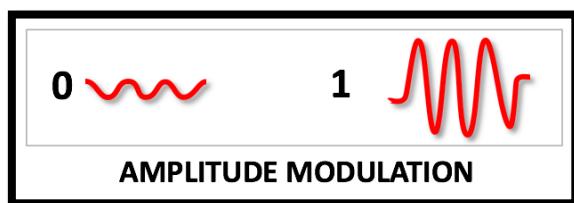
The Court is familiar with the concepts of phase modulation and amplitude modulation from the Prior Litigation, so this introduction to these concepts will be brief.

Modern high speed telecommunications network systems use light waves for digital data transmission. Transmitters and receivers are important components of these systems, because they perform key aspects of the encoding, transmitting, receiving and decoding functions for optical signals. In an optical telecommunications network, a transmitter transmits signals from one location to another location, where a receiver receives the optical signals. *See* '500 patent at 1:13–22.

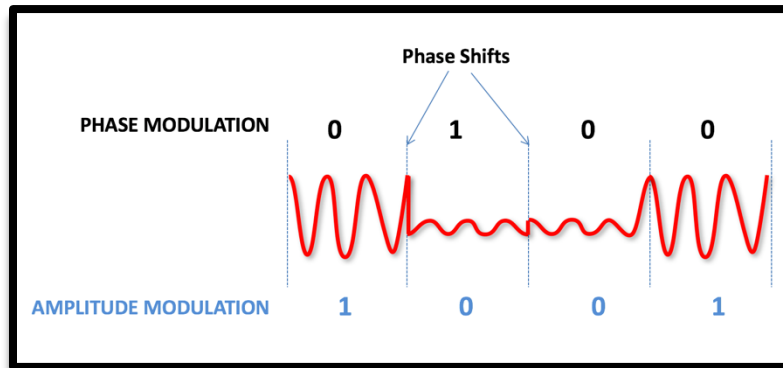
A light wave is defined by various properties including amplitude and phase. When depicted as in the figure below, amplitude can be understood as the height of the wave, and phase as the position of the wave at a fixed point in time.



For digital data transmission, one or more of these wave properties can be modified to represent each of two possible binary values (0 or 1). For phase modulation, this is often depicted as a relative displacement such that the peaks and troughs occur at different times. The figures below show how either amplitude or phase can be modulated to communicate a digital 0 or 1:



Combining modulation strategies allows for the loading of even more information on a single carrier wave. For example, a single wave can be phase- *and* amplitude-modulated so that it can convey two different streams of digital data on the same carrier light wave. This is depicted in the below figure:



### III. CLAIM CONSTRUCTION PRINCIPLES

The “claim construction inquiry . . . begins and ends in all cases with the actual words of the claim.” *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1324 (Fed. Cir. 2002). Thus, “[q]uite apart from the written description and the prosecution history, the claims themselves provide substantial guidance as to the meaning of particular terms.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005). “To begin with, the context in which a term is used in the asserted claim can be highly instructive.” *Id.*

There is a “heavy presumption” that claim terms carry their “full ordinary and customary meaning, unless [the accused infringer] can show the patentee expressly relinquished claim scope.” *Epistar Corp. v. ITC*, 566 F.3d 1321, 1334 (Fed. Cir. 2009). And because “the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention,” the task of comprehending the claims often “involves little more than the application of the widely accepted meaning of commonly understood words.” *Phillips*, 415 F.3d at 1313-14.

“There are only two exceptions” in which claim terms are not given their full ordinary and customary meaning: “1) when a patentee sets out a definition and acts as his own lexicographer,

or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.”). *Thorner v. Sony Computer Entertainment Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). The patent specification can also shed light on the meaning of claim terms. *Phillips*, 415 F.3d at 1315. However, without clear and unambiguous disclaimer or lexicography by the patentee, courts “do not import limitations into claims from examples or embodiments appearing only in a patent’s written description, even when a specification describes very specific embodiments of the invention or even describes only a single embodiment.” *JVW Enters.*, 424 F.3d at 1335. Similarly, statements during patent prosecution do not limit the claims unless the statement is a “clear and unambiguous disavowal of claim scope.” *Omega Engineering, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1325 (Fed. Cir. 2003) (“[W]e have thus consistently rejected prosecution statements too vague or ambiguous to qualify as a disavowal of claim scope.”).

#### IV. DISPUTED CONSTRUCTION FOR THE PATENT-IN-SUIT

##### A. “phase modulate” and grammatical variations (claims 1, 8, 16, 17, 19)

Oyster’s Proposed Construction	Defendants’ Proposed Construction
alter the phase of light to create an optical signal having a phase that is representative of data	alter the phase of light to create an optical signal having a phase that is representative of data. <u>Use of phase modulation excludes use of amplitude modulation.</u>

The parties agree that phase modulation requires “alter[ing] the phase of light to create an optical signal having a phase that is representative of data,” in accord with the Court’s construction of the term in the Prior Litigation. The sole dispute between the parties is whether the construction should also “exclude[] use of amplitude modulation,” as proposed by Defendants.

In the context of the ’500 patent, phase modulation and amplitude modulation are not mutually exclusive. They can both be used by the same system, and indeed at exactly the same time. This is stated explicitly and clearly in the “Summary of the Present Invention” section of the patent, which states:

*The present invention thus permits a phase-modulated transmission mode or an amplitude-modulated transmission mode, or both a phase and amplitude modulated transmission mode, which can permit the transmitter to work with different types of receivers.*



'500 patent at 2:41–47 (emphasis added). A construction of “phase modulate” that “excludes” amplitude modulation, as proposed by Defendants, is contrary to this explicit disclosure of a “both a phase and amplitude modulated” mode.

The summary section goes on to describe a “second mode” where the light is amplitude modulated (*id.* at 2:63–64) and where “the optical signal may or may not also be phase modulated” (*id.* at 3:1–3). The specification also describes other ways of combining phase modulation with amplitude modulation, including in an “alternating stream” or a “mixed” signal. *Id.* at 3:27–30, 3:47–50, 3:62–64, 4:35–42.

These combinations of phase modulation and amplitude modulation are not just described in the specification, but also expressly claimed. Each of the independent claims 1, 10, 11, 16, and 17 requires the use of both phase modulation and amplitude modulation. Some claims require that they both be used in a single mode. For example, claim 19 claims a “second alternate transmission mode” wherein “the light is *both* amplitude-modulated *and* phase-modulated.” ’500 patent at 10:26–28 (emphasis added).

Defendants’ proposed construction both excludes preferred embodiments and renders claims such as claim 19 incomprehensible. It cannot be that the term “phase modulate” in the context of the ’500 patent “excludes” amplitude modulation, when the patent discloses and claims modes that utilize both phase modulation and amplitude modulation simultaneously. Accordingly, Defendants’ proposed construction must be rejected. *See Anchor Wall Sys., Inc. v. Rockwood Retaining Walls, Inc.*, 340 F.3d 1298, 1308 (Fed. Cir. 2003) (construction that excludes a preferred embodiment “is rarely, if ever correct”); *Phillips*, 415 F.3d at 1314 (“the claims themselves provide substantial guidance as to the meaning of particular terms.”).

Defendants’ proposed construction must also be rejected under the doctrine of claim differentiation. Claim 18 claims a “first transmission mode” that is phase-modulated but is “not amplitude-modulated.” *Id.* at 10:14–16, 10:22–25. If “phase modulate” in the context of the ’500 patent necessarily excluded amplitude modulation, then claim 18 and its requirement that the light “is not amplitude-modulated” would be superfluous, having exactly the same scope as the parent

claim 17. *Tandon Corp. v. U.S. Intern. Trade Commn.*, 831 F.2d 1017, 1023 (Fed. Cir. 1987) (“To the extent that the absence of such difference in meaning and scope would make a claim superfluous, the doctrine of claim differentiation states the presumption that the difference between claims is significant.”); *SunRace Roots Enter. Co., Ltd. v. SRAM Corp.*, 336 F.3d 1298, 1303 (Fed. Cir. 2003) (claim differentiation “is especially strong when the limitation in dispute is the only meaningful difference between an independent and dependent claim, and one party is urging that the limitation in the dependent claim should be read into the independent claim.”)

In the absence of clear and unambiguous disclaimer or lexicography by the patentee, the term must be given its full ordinary and customary meaning. *Thorner*, 669 F.3d at 1365. The Court has previously considered what the ordinary meaning of “phase modulate” is. Case No. 2:16-cv-01302-JRG, Dkt. 190 at 16. Specifically, the Court considered definitions for the term from authoritative technical dictionaries:

**phase modulation:** Angle modulation in which the phase angle of a carrier, such as an electronic, radio, or optical carrier, is caused to depart from its reference value by an amount proportional to the instantaneous value of the modulating signal.

Mirzaie Decl., Ex. B, *Fiber Optics Standard Dictionary* 742 (3d ed. 1997)

**phase modulation (1) (data transmission)** Angle modulation in which the angle of a carrier is caused to depart from its reference value by an amount proportional to the instantaneous value of the modulating function.

Mirzaie Decl., Ex. C, *The Authoritative Dictionary of IEEE Standards Terms* 816 (7th ed. 2000)

Based upon these definitions, the Court found that phase modulation cannot be met by amplitude modulation alone. Case No. 2:16-cv-01302-JRG, Dkt. 190 at 16. But the Court also found that “Defendants have not shown that using phase modulation necessarily *precludes* using amplitude modulation.” *Id.* Defendants have not cited any evidence—intrinsic or extrinsic—in this case that would support a different conclusion concerning the plain meaning of “phase modulate” in this case. *See* Dkt. 64, Ex. A. Accordingly, the Court should determine that the plain meaning of “phase modulate” does not exclude the use of amplitude modulation in this case as well.

There is nothing in the specification or file history of the '500 patent that constitutes clear and unambiguous disclaimer or lexicography that would permit narrowing the term from this plain meaning. In the Prior Litigation, the Court found “repeated derogatory statements” about amplitude modulation in the patents at issue, which justified limiting the scope of “phase modulation.” Case No. 2:16-cv-01302-JRG, Dkt. 190 at 14–17. There is no comparable disparagement in the '500 patent.

The '500 patent disparages *both* prior art amplitude-modulated systems *and* prior art phase-modulated systems, without expressing any particular preference for either type of prior art system. '500 patent at 1:34–37, 2:21–23 (“The phase-modulated based systems described above moreover are not compatible with existing receivers, a *major disadvantage*.” (emphasis added)). It contains no repeated disparagement of amplitude modulation or of using the two forms of modulation together. The disparagement of amplitude modulation that the Court found in the Prior Litigation was spread across several patents asserted in that litigation, including the '898 patent, '816 patent, and '592 patent asserted in that case. Case No. 2:16-cv-01302-JRG, Dkt. 190 at 14–16. But these three patents were all filed after the '500 patent and are not related to it by continuation or division. Mirzaie Decl., Exs. E–G.

It appears that Defendants may argue that the '500 patent disparages the use of amplitude modulation because it incorporates the application that lead to the '055 patent by reference. '500 patent at 2:51–56, 3:6–11; Mirzaie Decl. Ex. D, '055 patent. The '816 patent that the Court cited in its prior *Markman* order is a continuation-in-part of the '055 patent. Exs. D, E. But as a continuation-in-part, the '816 patent added material to its specification that was not present in the '055 patent and thus not incorporated by reference into the '500 patent specification. Only two of the purportedly derogatory statements that the Court relied upon in its prior construction of “phase modulate” appear in the specification of the '055 patent. The first of these statements is a statement that amplitude-modulated signals can be tapped. Ex. D, '055 patent at 1:34–39; Case No. 2:16-cv-01302-JRG, Dkt. 190 at 14. But this same statement is also contained in the body of the '500 patent specification, as part of a section that critiques prior art techniques generally. '500 patent at 1:34–

38. The second statement contained in the '055 specification is the statement: "With the system of the present invention, the receiver functions as an interferometer. An attempt to read the optical signal in the fiber, for example from a tap, requires knowledge of the delay and the creation of a precise physical delay path in the interferometer." Ex. D, '055 patent at 2:49–53; Case No. 2:16-cv-01302-JRG, Dkt. 190 at 15. But this is expressly a statement about the "present invention" of the '055 patent, not about the invention of the '500 patent. It is also not a general disparagement of amplitude modulation.

The invention of the '500 patent is different from the invention of the '055 patent or of the other patents at issue in the Prior Litigation. As the title of the patent suggests, it describes a "Dual-Mode" system. '500 patent at Abstract, 2:41–47. The system of the '055 patent is referred to in the '500 patent specification, but only as one "preferabl[e]" way of achieving the "first mode." '500 patent at 2:47–56. The '055 patent's disclosure is not a mandatory aspect of the '500 patent invention, and the '055 patent does not disclose the entire invention claimed in the '500 patent. The disparaging statements that the Court pointed to in the Prior Litigation, from the '055 patent or the other patents at issue in that litigation, do not apply to the different invention of the '500 patent.

## **V. CONCLUSION**

Oyster's proposed construction is consistent with the plain meaning of the term "phase modulate," as previously determined by this Court. While Defendants' construction excludes preferred embodiments, renders some claims incomprehensible, and fails to differentiate other claims, Oyster's construction is consistent with how the '500 patent itself uses the term in the specification and the claims. Oyster respectfully asks that the Court adopt this proposed construction.

Dated: May 5, 2020

Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I hereby certify that the counsel of record who are deemed to have consented to electronic service are being served on May 5, 2020 with a copy of this document via the Court's ECF system.

DATED: May 5, 2020

Respectfully submitted,

By: /s/ Reza Mirzaie  
Reza Mirzaie